

DETAILED ACTION

Response to Amendment

1. Receipt is acknowledged of applicant's amendment filed on 02/07/2011. Claim(s) 4, 8-10, 17, 22, 23, 32 and 37-38 has been canceled without prejudice. Claim(s) 1-3, 5-7, 11-16, 18-21, 24-31, 33-36 and 39-45 are pending and an action on the merits is as follows.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Randolph Digges on 4/21/2011.

The applicant has been amended as follows:

IN THE CLAIMS

Claim 1, (Currently Amended): A method of forming an infrared detectable mark on a substrate comprising:

forming the mark on the substrate using a laser marking system and a laser marking composition comprising an infrared reflective inorganic pigment, wherein the infrared reflective inorganic pigment causes the mark to reflect radiation at a

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predetermined wavelength within the range of ~~from about~~ 0.75 μm to ~~about~~ 40 μm at a sufficiently different level than the substrate adjacent to the mark such that the mark can be discerned from the substrate at the predetermined wavelength; and

applying a cover coating material comprising an inorganic pigment that is different than the infrared reflective inorganic pigment in the laser marking composition over the mark and over at least a portion of the substrate adjacent to the mark to form a cover coat, wherein the cover coat is in the form of a film selected from the group consisting of paint films, porcelain enamel coating films, glass enamel coating films, extruded plastic films and laminated plastic films, wherein the cover coat appears substantially opaque in the visible portion of the electromagnetic spectrum such that it conceals the mark covered by the cover coat in the visible portion of the electromagnetic spectrum but is sufficiently transmissive of radiation emitted at the predetermined wavelength such that the mark can be discerned from the substrate through the cover coat at the predetermined wavelength.

Claim 29 (Currently Amended): A method of forming an infrared detectable mark on a substrate comprising:

applying a marking material comprising an infrared reflective inorganic pigment to the substrate to form the mark;

applying a masking material over at least a portion of the mark and, optionally, over a portion of the substrate, to form a mask, wherein the infrared reflective inorganic pigment causes the mark to reflect radiation at a predetermined wavelength within the range of ~~from about~~ 0.75 μm to ~~about~~ 40 μm at a sufficiently different level than the

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mask such that the mark can be discerned from the mask at the predetermined wavelength, wherein at least one of the mark and the mask is formed using a laser marking system; and

applying a cover coating material comprising an inorganic pigment that is different than the infrared reflective inorganic pigment in the marking material over the mark and the mask to form a cover coat, wherein the cover coat is in the form of a film selected from the group consisting of paint films, porcelain enamel coating films, glass enamel coating films, extruded plastic films and laminated plastic films, wherein the cover coat appears substantially opaque in the visible portion of the electromagnetic spectrum such that it conceals both the mark and the mask covered by the cover coat in the visible portion of the electromagnetic spectrum but is sufficiently transmissive of radiation emitted at the predetermined wavelength such that the mark can be discerned from the mask through the cover coat at the predetermined wavelength.

Allowable Subject Matter

3. Claims 1-3, 5-7, 11-16, 18-21,24-31,33-36 and 39-45 are allowed.
4. Re claims 1: The following is an examiner's statement of reasons for allowance: Reference Peterson (Us Publication No. 2003/0157762) is cited because it is pertinent to applicant's disclosure. However, applicant's arguments are considered persuasive. Accordingly, none of the cited prior art of record taken alone or in combination, fairly suggest a method of forming an infrared detectable mark on a substrate comprising:

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forming the mark on the substrate using a laser marking system and a laser marking composition comprising an infrared reflective inorganic pigment and applying a cover coating material comprising a inorganic pigment that is different than the infrared reflective inorganic pigment in the laser marking composition over the mark and over at least a portion of the substrate adjacent to the mark to form a cover coat, wherein the cover coat is in the form of a film selected from the group consisting of paint films, porcelain enamel coating films, glass enamel coating films, extruded plastic films and laminated plastic films. These limitations in conjunction with the other limitations in the claimed invention are not anticipated by, nor made obvious over the prior art.

5. Re claim 14, The following is an examiner's statement of reasons for allowance: Reference Peterson (Us Publication No. 2003/0157762) is cited because it is pertinent to applicant's disclosure. However, applicant's arguments are considered persuasive. Accordingly, none of the cited prior art of record taken alone or in combination, fairly suggest a method of forming an infrared detectable mark on a substrate comprising: applying a marking material comprising an infrared reflective inorganic pigment to the substrate to form the mark; applying a contrast marking material to the substrate to form a contrast mark proximal to the mark wherein at least one of the mark and the contrast mark is formed using a laser marking system; and applying a cover coating material comprising an inorganic pigment that is different than the infrared reflective inorganic pigment in the marking material over the mark and the contrast mark to form a cover coat, wherein the cover coat is in the form of a film selected from the group consisting of paint films, porcelain enamel coating films, glass enamel coating films,

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extruded plastic films and laminated plastic films. These limitations in conjunction with the other limitations in the claimed invention are not anticipated by, nor made obvious over the prior art.

6. Re claim 29, The following is an examiner's statement of reasons for allowance:

Reference Peterson (Us Publication No. 2003/0157762) is cited because it is pertinent to applicant's disclosure. However, applicant's arguments are considered persuasive.

Accordingly, none of the cited prior art of record taken alone or in combination, fairly suggest applying a marking material comprising an infrared reflective inorganic pigment to the substrate to form the mark; applying a masking material over a least a portion of the mark, wherein at least one of the mark and the mask is formed using a laser marking system; and applying a cover coating material comprising an inorganic pigment that is different than the infrared reflective inorganic pigment in the marking material over the mark and the mask to form a cover coat, wherein the cover coat is in the form of a film selected from the group consisting of paint films, porcelain enamel coating films, glass enamel coating films, extruded plastic films and laminated plastic films.

These limitations in conjunction with the other limitations in the claimed invention are not anticipated by, nor made obvious over the prior art.

7. Re claim 44, The following is an examiner's statement of reasons for allowance:

Reference Peterson (Us Publication No. 2003/0157762) is cited because it is pertinent to applicant's disclosure. However, applicant's arguments are considered persuasive.

Accordingly, none of the cited prior art of record taken alone or in combination, fairly suggest a non-visible authentication mark comprising a laser mark disposed between a

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substrate and a cover coating layer that covers the laser mark and at least a portion of the substrate surrounding the laser mark, wherein the laser mark comprises an infrared reflective inorganic pigment and the cover coating layer comprises an inorganic pigment that is different than the infrared reflective inorganic pigment in the laser mark, wherein the cover coating layer is in the form of a film selected from the group consisting of paint films, porcelain enamel coating films, glass enamel coating films, extruded plastic films and laminated plastic films. These limitations in conjunction with the other limitations in the claimed invention are not anticipated by, nor made obvious over the prior art.

Re claim 45, The following is an examiner's statement of reasons for allowance: Reference Peterson (Us Publication No. 2003/0157762) is cited because it is pertinent to applicant's disclosure. However, applicant's arguments are considered persuasive. Accordingly, none of the cited prior art of record taken alone or in combination, fairly suggest an article marked with a non-visible authentication mark comprising a laser mark disposed between a surface of the article and a cover coating layer that covers the laser mark and at least a portion of the substrate surrounding the laser mark, wherein the laser mark comprises an infrared reflective inorganic pigment and the cover coating layer comprises an inorganic pigment that is different than the infrared reflective inorganic pigment in the laser mark, wherein the cover coating layer is in the form of a film selected from the group consisting of paint films, porcelain enamel coating films, glass enamel coating films, extruded plastic films and laminated plastic films. These limitations in conjunction with the other limitations in the claimed invention are not anticipated by, nor made obvious over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SONJI JOHNSON whose telephone number is 571-270-5266. The examiner can normally be reached on Monday-Thursday 7:30 AM -6:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve S. Paik can be reached on 571-272-2404. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner, Art Unit 2887

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